

Economic Overview and State Revenue Forecast

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“A fad is a bubble if the contagion of the fad occurs through price; people are attracted by observed price movements,” Robert Schiller, an economist at Yale, explained in his 1989 book, *Market Volatility*. “In the simplest bubble model, price increases themselves thus cause subsequent price increases until price reaches some barrier; then the bubble bursts and price drops precipitously, since there are then no further price increases to sustain the high demand.”

I. National Summary

The economic outlook appears modestly bright for 2006. While the balance of the economic scale is tilted toward the positive, expect the economic news to continue to be mixed in the coming months.

I. National Summary

Positive Factors

- 1. 16 quarters of uneven but positive economic growth.**
- 2. Third quarter GDP increased 3.8 percent, Q2 was 3.3, while Q1 saw GDP growth of 3.8 percent.**
- 3. Corporate profits have grown steadily since slumping slightly in Q3 of 2004.**
- 4. Capital spending relatively strong.**
- 5. Excluding fuel and energy prices, little or no inflation (2.2 percent in Q3).**

I. National Summary

Positive Factors

- 6. Productivity remains strong, helping to offset the hurricanes and rising fuel and energy prices.**
- 7. Stock markets gaining traction.**
- 8. Business inventories/sales ratio remains low.**
- 9. Retail sales remain strong despite higher fuel and energy prices, up 7.4 percent for January – October 2005 over 2004 (8.3 percent excluding autos).**
- 10. Gasoline prices falling towards pre-Katrina levels.**

I. National Summary

Negative Factors

- 1. Consumer confidence falling, negatively impacted by Hurricanes, fuel prices, war outlook.**
- 2. Growth in Real Disposable Personal Income has been stagnant in 2005 (Q1: -3.4 percent; Q2: 1.5 percent; Q3: -0.9 percent).**
- 3. Outsourcing expected to continue, impacting the lowest-skilled the most.**
- 4. New Fed Chairman is similar to Greenspan: Interest rates expected to rise.**
- 5. Housing bubble may pop.**
- 6. Terrorist threats...and risks are high.**

I. National Summary

Negative Factors

- 7. Natural Gas prices expected to rise this winter as supply growth fails to keep up with demand growth, both domestically and internationally.**
- 8. Rising health care and pension costs continue to eat at long-term corporate health.**
- 9. GDP growth unsustainable unless jobs are created. 2005 will be the first year that Total Nonfarm Employment will surpass 2001 peak levels.**
- 10. Savings rates are at record lows.**

II. Summary for Tennessee

Positive Factors

- 1. Nissan corporate move to Tennessee.**
- 2. Hino Motors opening manufacturing facilities across the river from Memphis in Arkansas.**
- 3. Bodine Aluminum Toyota engine facility in Jackson.**
- 4. Memphis Bio-Tech sector: St. Jude expanding, Medtronic Sofmar Danek profitable and expanding.**
- 5. FedEx, Autozone both profitable.**

II. Summary for Tennessee

Positive Factors

- 6. Northwest Tennessee Regional Port project should bring job growth to high unemployment area.**
- 7. The growth in stock values should increase expenditures from wealth and taxes on unearned income.**
- 8. Positive U.S. economic growth will translate into Tennessee economic growth.**
- 9. No housing bubble in Tennessee.**
- 10. Site Selection Magazine ranks Tennessee 5th in best business climate.**

II. Summary for Tennessee

Negative Factors

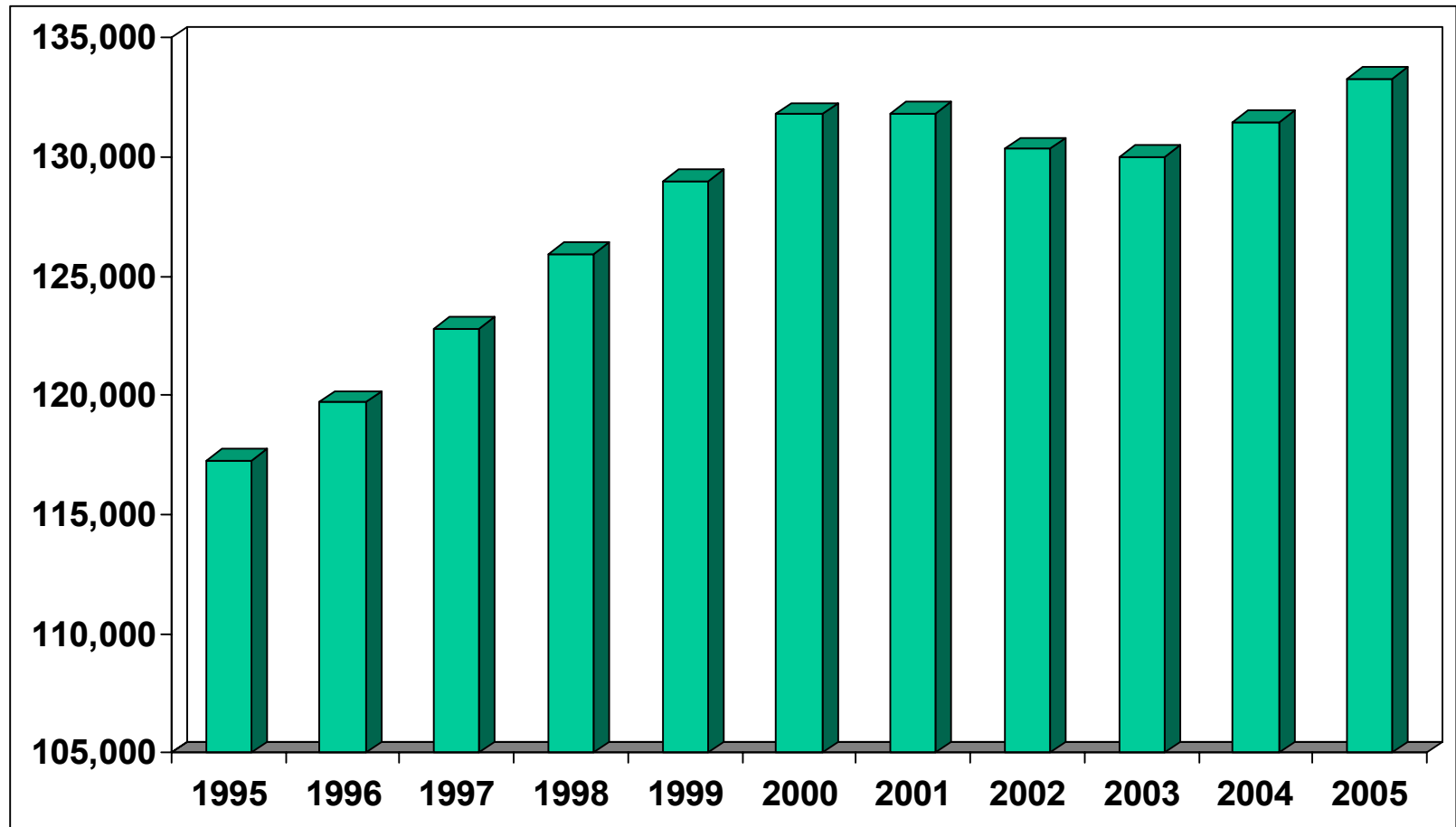
- 1. Outsourcing continues: a largely undereducated workforce unable to compete with lower-cost foreign competitors.**
- 2. Associated loss of manufacturing jobs is particularly severe for rural counties.**
- 3. Weak support for higher education hinders state's ability to compete in global economy.**
- 4. High unemployment rates in rural counties and throughout all of West Tennessee will be difficult to reduce.**
- 5. Closing of Springhill Saturn Ion Assembly line.**

II. Summary for Tennessee

Negative Factors

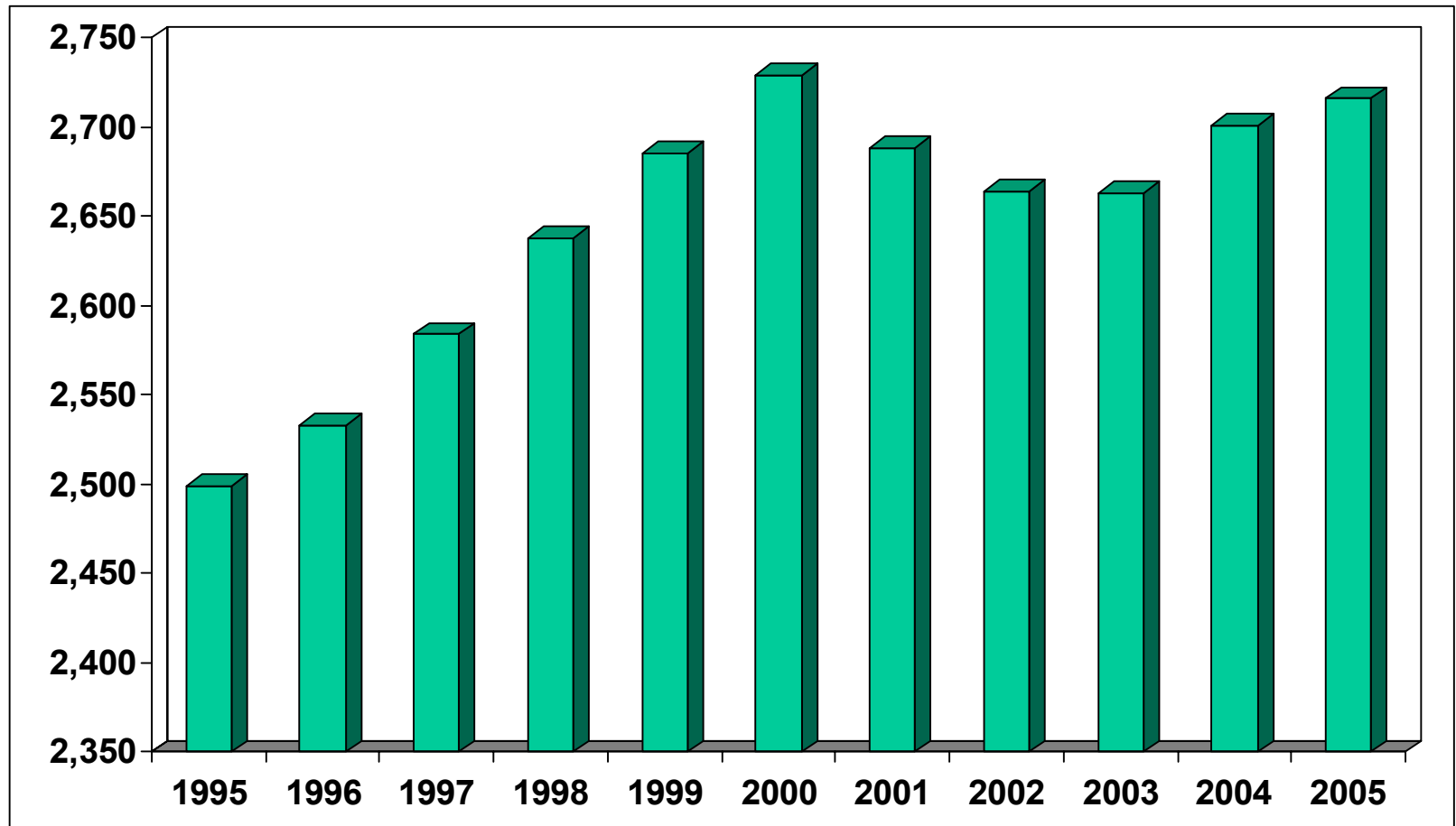
- 6. Highly uneven job growth across the state.**
- 7. The cost of health care continues to absorb revenue increases for state government.**
- 8. A cold winter combined with significantly higher natural gas prices will negatively impact retail sales.**
- 9. Influx of Katrina evacuees along with multiple mammoth natural disasters has redirected charitable giving, negatively impacting state and local charities.**
- 10. The budget crisis is one down-year away.**

**Figure 1. U.S. Total Nonfarm Employment
1995–2005* (000)**



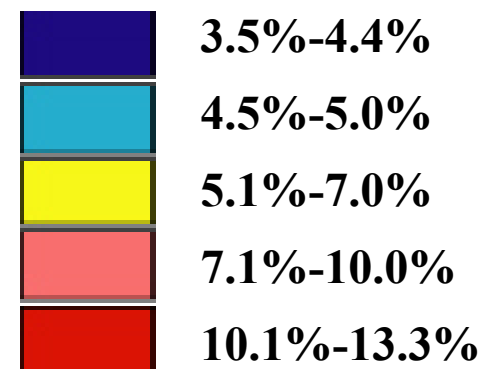
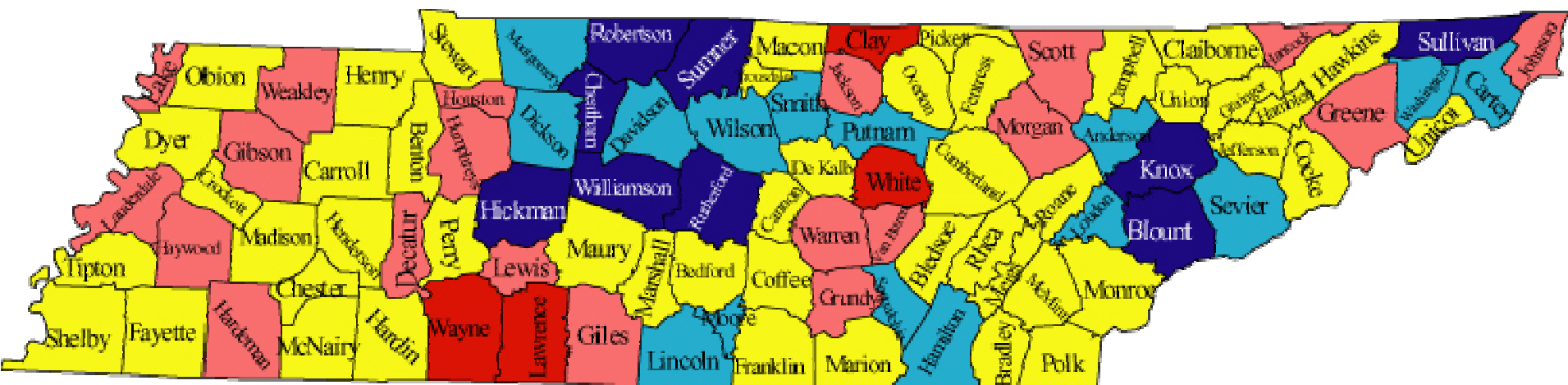
*Value for 2005 is SBBER projection.

**Figure 2. TN Total Nonfarm Employment
1995–2005* (000)**



*Value for 2005 is SBBER projection.

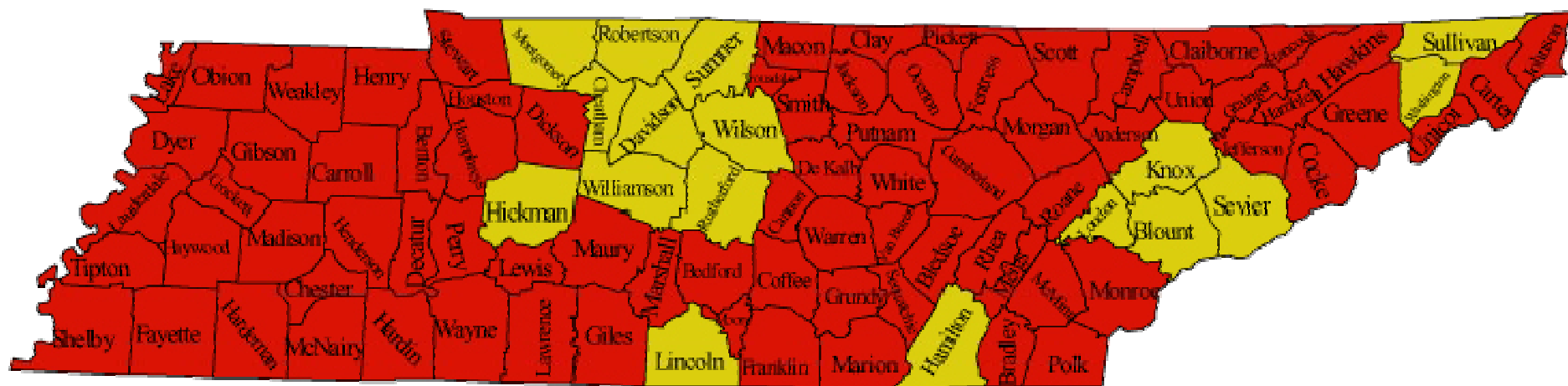
Map 1. Tennessee Unemployment by County, October 2005



Map: Sparks Bureau of Business and Economic Research, The University of Memphis.

Source: Tennessee Department of Labor and Workforce Development.

Map 2. Tennessee Counties Versus National Unemployment Rate, October 2005*



October National Rate=4.6%

October State Rate=5.3%



At or below national rate

Greater than national rate

***Not seasonally-adjusted.**

Map: Sparks Bureau of Business and Economic Research, The University of Memphis.

Source: Tennessee Department of Labor and Workforce Development.

III. Total Tax Revenue for Tennessee

- 1. The \$545 million growth in accrual year collections recorded for 2004-2005 was the State of Tennessee's fourth largest increase since 1970.**
- 2. Growth in August-July collections for 2002-2003, 1991-1992, and 2003-2004 were larger in dollar terms.**
- 3. In relative terms, the 6.0 percent growth in 2004-2005 ranks only number twenty in the thirty-six year history, making it look more ordinary relative to growth in demands for State services and inflation.**

III. Total Tax Revenue for Tennessee

- 4. The median forecast for 2005-2006, presented in Table 1, calls for State of Tennessee revenue to reach \$10,126 million.**
- 5. This would be the first year that Tennessee state government collects more than \$10 billion from these sources of funds.**
- 6. The \$460 million growth (which assumes no further increase in tax rates) would tie for sixth in the ranks of dollar growth.**

	Collections	2006 AY			2007 AY		
Class of Tax	2005 AY	Low	Median	High	Low	Median	High
Sales and Use			\$ 6,363			\$ 6,700	
Franchise and Excise			1,480			1,598	
Gasoline			614			620	
Privilege			323			355	
Motor Vehicle Registration			252			257	
TVA - In Lieu of Tax Payments			220			227	
Motor Vehicle Fuel			178			182	
Income			170			187	
Tobacco			121			123	
Business			117			118	
Inheritance & Estate			86			91	
Petroleum Special			65			66	
Mixed Drink			45			48	
Alcoholic Beverage			38			39	
Gross Receipts			22			24	
Beer			18			18	
Motor Vehicle Title			12			12	
Severance			2			2	
Coin-operated Amusement			0			0	
Total			\$10,126			\$10,665	

III. Total Tax Revenue for Tennessee

- 7. Table 2 shows that this growth would be 4.8 percent, giving it a rank of twenty-seventh among relative growth figures since 1970.**
- 8. Table 2 also shows that the distribution of revenue across alternative sources will not evolve in any radical departure from historical trends. Only ten revenue sources individually account for as much as 1.0 percent of the total. One will account for 62.8 percent of the forecasted total for 2005-2006.**

Table 2. Tennessee Tax Growth and Forecasted Tax Proportions

	Growth Rates			Budget Proportions		
Class of Tax	2004 AY to 2005 AY	2005 AY to 2006F	2006F to 2007F	2005 AY	2006F	2007F
Sales and Use	5.0%	4.4%	5.3%	0.631	0.628	0.628
Franchise and Excise	15.7%	8.2%	8.0%	0.141	0.146	0.150
Gasoline	1.2%	1.0%	1.0%	0.063	0.061	0.058
Privilege	6.2%	9.8%	9.8%	0.030	0.032	0.033
Motor Vehicle Registration	2.4%	2.2%	2.1%	0.025	0.025	0.024
TVA - In Lieu of Tax Payments	6.2%	2.4%	3.0%	0.022	0.022	0.021
Motor Vehicle Fuel	2.7%	2.6%	2.6%	0.018	0.018	0.017
Income	11.2%	9.7%	9.7%	0.016	0.017	0.018
Tobacco	- 0.3%	1.3%	1.3%	0.012	0.012	0.011
Business	22.8%	0.6%	0.6%	0.012	0.012	0.011
Inheritance and Estate	-21.1%	7.6%	5.8%	0.008	0.009	0.009
Petroleum Special	1.7%	1.7%	1.7%	0.007	0.006	0.006
Mixed Drink	5.5%	5.1%	4.9%	0.004	0.004	0.004
Alcoholic Beverage	3.5%	1.6%	1.5%	0.004	0.004	0.004
Gross Receipts	23.6%	8.9%	9.5%	0.002	0.002	0.002
Beer	- 1.9%	3.0%	1.1%	0.002	0.002	0.002
Motor Vehicle Title	1.0%	1.8%	1.8%	0.001	0.001	0.001
Severance	34.3%	2.0%	2.0%	0.000	0.000	0.000
Coin-operated Amusement	-22.6%	-24.2%	-25.3%	0.000	0.000	0.000
Total	6.0%	4.8%	5.3%			

III. Total Tax Revenue for Tennessee

- 9. Sales and Use Taxes contributed an all-time high 64.1 percent of the total in 2002-2003, but the forecast calls for a slow back-tracking from the precipice represented by collecting two-thirds of revenue from one source.**

III. Total Tax Revenue for Tennessee

10. There is considerable risk in tax revenue fluctuations. Tables 3 A and B show alternative total collection figures, with estimates of the risk that 2005-2006 revenue will be at or below those figures. \$9,666 million would represent zero growth over 2004-2005. The estimated 0.01 probability indicates the very slight risk of that sort of revenue year.

Table 3A. Risk Analysis for Forecasted Revenue in Tennessee, 2005-2006 (\$000,000)

2005-2006			2005-2006			
Sales Tax Levels	Risk of a Lower Revenue	Growth Rate		Total Revenue Levels	Risk of a Lower Revenue	Growth Rate
\$6,094	0.06	0.0%		\$ 9,666	0.01	0.0%
6,141	0.10	0.8%		9,870	0.10	2.1%
6,217	0.20	2.0%		9,888	0.12	2.3%
6,246	0.25	2.5%	Low	9,958	0.20	3.0%
6,272	0.30	2.9%		9,991	0.25	3.4%
6,319	0.40	3.7%		10,021	0.30	3.7%
6,346	0.46	4.1%	July Projection	10,075	0.40	4.2%
6,363	0.50	4.4%	Median	10,126	0.50	4.8%
6,407	0.60	5.1%		10,177	0.60	5.3%
6,454	0.70	5.9%		10,231	0.70	5.8%
6,479	0.75	6.3%	High	10,261	0.75	6.2%
6,508	0.80	6.8%		10,294	0.80	6.5%
6,584	0.90	8.0%		10,382	0.90	7.4%

July Projection

Low

Median

High

Table 3B. Risk Analysis for Forecasted Revenue in Tennessee, 2006-2007 (\$000,000)

2006-2007			2006-2007		
Sales Tax Levels	Risk of a Lower Revenue	Growth Rate	Total Revenue Levels	Risk of a Lower Revenue	Growth Rate
\$6,187	0.10	- 2.8%	\$ 9,897	0.10	- 2.3%
6,363	0.20	0.0%	10,126	0.18	0.0%
6,430	0.25	1.1%	10,161	0.20	0.3%
6,490	0.30	2.0%	10,261	0.25	1.3%
6,598	0.40	3.7%	10,351	0.30	2.2%
6,700	0.50	5.3%	10,513	0.40	3.8%
6,801	0.60	6.9%	10,665	0.50	5.3%
6,910	0.70	8.6%	10,817	0.60	6.8%
6,970	0.75	9.5%	10,980	0.70	8.4%
7,036	0.80	10.6%	11,070	0.75	9.3%
7,212	0.90	13.4%	11,170	0.80	10.3%
			11,434	0.90	12.9%

III. Total Tax Revenue for Tennessee

11. There is no certainty that the July 2005 projection of \$9,888 million will be realized, but a 0.12 probability calculated for the down-side risk means that there is 0.88 probability that revenue will exceed that level.

12. The “high” and “low” forecasts in Table 1 come from Tables 3A and 3B calculations for the odds of revenue being 0.75 (versus 0.25) that revenue will be at or below the high value (versus the low value.) Thus, the high/low range gives the narrowest interval that has 0.50 probability of bracketing the year’s final collection figure.

III. Total Tax Revenue for Tennessee

13. The median forecast is the best single number to anticipate, but there is 0.50 probability, by definition, that revenue will be lower than that number—and also that there is a 0.50 probability that revenue will be higher.

III. Total Tax Revenue for Tennessee

14. Table 1 also has the \$10,665 forecast for 2006-2007.

15. The 2006-2007 growth rate in Table 2 growth rate is 5.3 percent stronger than for 2005-2006, but very modest by historical standards.

16. The wider high/low range in Table 1 indicates that more risk from fluctuations in the revenue environment cumulate over a longer forecast horizon.

III. Total Tax Revenue for Tennessee

17. Table 3B indicates that 0.18 is the risk of an actual decrease in 2006-2007 relative to the forecast for 2005-2006. That risk is much higher than the 0.01 threat reported for 2005-2006.

IV. Sales and Use Taxes

- 1. The 5.0 percent growth realized in 2004-2005 was modest, twenty-ninth among the set of annual growth rates since 1970. It was just below the July 2004 budget assumption, but above most economists' forecasts.**
- 2. The median forecast for 2005-2006 is \$6,363 million, for 4.4 percent growth. That growth would make the year rank number thirty in growth since 1970. The forecast comes from a simple statistical model that averages 2.0 mean absolute percentage error and \$42.0 million mean absolute error since 1969.**

IV. Sales and Use Taxes

- 3. The narrow high/low range reflects that claim to forecasting precision after three months of actual collections during the forecast year.**
- 4. With no change in the tax rate, the risk is rated at 0.06 that there will be zero growth or decline relative to last year.**
- 5. The median forecast is higher than the July 2005 projection. However, the Table 3 analysis calculates 0.46 as the risk that actual revenue will fall below the \$6,346 level.**

IV. Sales and Use Taxes

- 6. The risk of no growth increases to 0.20 for 2006-2007. That comes despite the median forecast of 5.3 percent growth, to \$6,700 million in 2006-2007.**

V. Other Taxes

- 1. While some individual sources of funds are very difficult to predict, none have the “leverage” to cause major one-year forecasting errors for total revenue. For example, a 100 percent forecasting error in Inheritance and Estate Taxes would cause 0.8 percent error in forecasting total taxes.**

V. Other Taxes

- 2. That lack of leverage applies to Franchise and Excise Taxes, which grew 15.7 percent. That growth caused the sum of the two taxes to move to a 0.141 proportion of collections from 0.130 in the prior year.**
- 3. Thus, the great growth in the second largest category of revenue did not cause a windfall in total collections. This notoriously difficult to anticipate revenue is forecasted to grow 8.2 percent in 2005-2006, then 8.0 percent in the next year.**

V. Other Taxes

- 4. While July 2005 projections call for \$1,358 million for 2005-2006, the median forecast is \$1,480. The July 2005 projection is well below the low forecast in Table 1.**
- 5. Gasoline taxes rank third with a 0.063 proportion of total collections in 2004-2005.**
- 6. The statistical model predicts with great precision for this revenue stream. Unfortunately, the prediction is for only 1.0 percent growth following the 1.2 percent growth in 2004-2005. This growth is more than anticipated in the July 2005 projection.**

V. Other Taxes

- 7. The statistical forecast for Privilege Taxes is \$323 million, far higher than the July 2005 projection of \$264 million. However, the extra funds mean only that this source of funds would grow from a 0.030 share of total revenue to a 0.032 proportion.**
- 8. The erratic history of this source of funds generates a relatively wide high/low range.**
- 9. Motor Vehicle Registrations have a median forecast and a high forecast that are lower than the July 2005 projection.**

V. Other Taxes

- 10. Given normal monthly patterns in TVA—In Lieu of Tax Payments, there is virtually no uncertainty remaining that 2005-2006 collections will total \$220 million. They would keep their status as number six among ranked sources of funds, contributing a 0.022 proportion of total taxes.**
- 11. TVA revenues are sometimes summed with Gross Receipts Taxes, which are very volatile, but small—0.002 of the total.**

V. Other Taxes

12. Gross Receipts Taxes grew 23.6 percent in 2004-2005, but are projected to grow a more typical 8.9 percent in 2005-2006.

13. The July 2005 projection that the sum of TVA and Gross Receipts Taxes will be \$239 million seems reasonable—with their summed high/low ranges being \$244/240.